

## General Plan Sheet Checklist

### A. Plan

1. Place on lower half of sheet toward the left-hand side.
2. Scale: Preferred 1" = 20', may be 1" = 30'; for small structures, 1" = 10'; avoid 1" = 40' or 1" = 50' as these scales become crowded on reduced plans. For large structures see paragraph G. Use a "General Plan" sheet with "Structure Plan" sheets.
3. There should be a station line or reference line that falls on each structure. It should preferably be:
  - a) District station line
  - b) Profile grade line
  - c) Inside or outside edge of pavement
  - d) Centerline of roadway
4. Stationing should run left to right. Exceptions: Orient all structures in a group similarly, regardless of stationing. Consider District or other preference or controls.
5. Check List:
  - Traveled way, shoulder and median width of approach roadways
  - Top and toe of approach fill or cut
  - Slope of fill or cut
  - Horizontal clearance under structure (including future alignment)
  - Name and direction of stream flow
  - North arrow
  - Alignment data
  - Name and direction of nearest towns and/or cities
  - Designation of construction and/or bridge centerlines
  - Skew angle (between the normal or radial to centerline of structure and centerline of pier or abutment)
  - Location of minimum vertical clearance
  - Deck drains and manholes
  - Location for painting bridge number and structure name (refer to page 3-30 and 3-31 for structure identification)
  - BB and EB stations and elevation
  - Bank protection or slope paving
  - Centerline piers or bents (shown by \_\_\_\_\_ — \_\_\_\_\_ only)
  - Bench Mark (only if there is no foundation plan)
  - Structure mounted signs
  - MBGR, Temporary railings (refer to Memo to Designers 14-19 for layout) and approach rail curb

- Tie between toe of slope and RR tracks
- RR R/W lines for structures over RR tracks
- Approach slab, if any
- Show existing Bridge (shown by a designation other than our normal lines  
                   \_\_\_\_\_ or \_\_\_\_\_ )

## **B. Elevation**

1. Projected vertically from the lower side for the plan view. When the opposite elevation is materially different, it also can be shown on the General Plan or on another sheet. In this case identify both Elevations by letters.
2. Developed elevations or longitudinal sections may be used for "horseshoe" POC's or other non-linear structures, or PUC's or culvert type structures. Check with the Section Leader before departing from the usual projected elevations.
3. Use same scale as Plan view.
4. For structures on pile footings, the description of piles to be used, design loading, the probable tip elevation, if required, and the specified tip elevation shall be shown on the General Plan. Show the information near the first abutment or bent with piles in the elevation view if possible. See Memo to Designers 3-1 for example of correct notation.
5. No conversion equations or charts relative to tidal stages shall be shown on contract plans.
6. Check List:
  - Abutment and bent numbers
  - Datum line with elevation and stations
  - Original ground line at bridge centerline, or as noted
  - Total length of bridge (BB to EB)
  - Spans (BB to centerline piers and between centerline of piers)
  - Pile data
  - Bank protection or slope paving
  - Vertical clearance to nearest 1" (round off to lower number)
  - Location of bridge number and structure name

## **C. Profile Grade**

1. Place line diagram above Elevation view.
2. Preferred scale is 1" = 10' but may be exaggerated horizontally or vertically to clarify diagram. (No Scale).
3. Check List:
  - Gradients, pertinent elevations and stations
  - Show length of vertical curves.
  - Don't show superelevation diagram on "General Plan" sheet.



## D. Typical Section

1. Place in upper right-hand portion of sheet.
2. Preferred scale is 1" = 10' but do not exceed 2½ times the Plan scale.
3. Take section looking ahead on stationing. Identify by section letters or stationing if section varies or station lines are not continuous across structure.
4. Check List:
  - Roadbed width on Bridge
  - Show typical pier or bent but no abutment
  - Show girders and/or slab
  - Show surfacing and/or deck seal if required
  - Location of profile grade
  - Superstructure thickness top of deck to bottom of girder (or main slab)
  - Note type of girders if steel, composite, non-composite, precast, precast-prestressed, or cast-in-place prestressed
  - Show width of barrier rail and type only. (If other types of rail are used, show rail height and curb width)
  - Show crown or maximum superelevation
  - Show widths of traveled way, sidewalks, shoulders, and medians on bridge
  - Show utilities and openings for future utilities
  - Show existing Bridge (shown by a designation other than our normal lines  
\_\_\_\_\_ - - \_\_\_\_\_ or \_\_\_\_\_ .. \_\_\_\_\_ )

## E. Sheet Title

1. Name of structure. Include: "Bridge", "Underpass", "Overcrossing", etc., in the title. No abbreviations unless absolutely necessary. When a separate General Plan is prepared for each of two or more bridges having the same bridge number, the name for each should state which bridge it is. For example:

BROADWAY UNDERCROSSING – LEFT BRIDGE  
BROADWAY UNDERCROSSING – RIGHT BRIDGE

Name of structure is to be lettered with a Wrico VC240 lettering guide, or equivalent style and size.

2. Additional items to include: Bridge number, post mile, work authorization and charge unit numbers, and at the top of the sheet are District, County and Route. Post Miles for the total project are placed by Headquarters.

## F. Miscellaneous

1. Change or add to the standard live loading printed on the sheets, if different.
2. For structures over drainage canals in Los Angeles County show the relation to the existing and proposed channels with a section taken normal to the channel. Include stationing and channel invert profile if available.
3. Care should be taken to keep the General Plan neat and clean with clear, legible lettering. This sheet is subject to considerably more handling than other tracings; it is also the sheet that is subject to approval and review by other agencies.
4. Do not color or shade on the back of any tracing; the final product is a photograph from the front of the sheet. Excess shading and lane delineation should be avoided as the photographic and reproduction processes frequently blur the line together.
5. The list of approximate quantities is placed on the plans after the tracings have been submitted to the Bridge Specifications & Estimates Section. Leave a clear space on the General Plan about 6 inches high by 6 inches wide for this purpose near the Index to Plans if possible. Space may be provided on sheet No. 2 if the General Plan is crowded.
6. Note the location of the General Notes in the plans along with the notation for symbols indicating painting bridge number etc., and point of minimum vertical clearance.
7. When a General Plan is used as a "Project Title Sheet" refer to page 3-21 for additional data required.
8. These instructions indicate general guide lines and office standards; any extensive departure should be discussed with and approved by the Design Engineer.
9. Note the location of the Hydrologic Summary in the plans, if appropriate.

## G. Use of "Structure Plans"

Structures, viaducts, and interchanges that are too large to be drawn on one "General Plan" format sheet at standard scale shall be drawn to a small enough scale (such as 1" = 200') so that the entire structure will be shown on one sheet. Alignment and other details are not required at this scale. The details normally shown on a General Plan shall be shown on "Structure Plan" sheets, drawn to 1" = 20' on "Detail" format sheet.

## H. Falsework Requirements

To ensure that traffic handling is given proper consideration in the early design stages, it will be necessary to identify traffic handling and falsework assumptions early.

For General Plans, tape the following completed note (Decal No. 32 [Latest revision date]) onto the sheet. The note is to be removed by the design section upon completion of the P&Q. *Note: Decal No. 32 is shown at the actual size needed for reduction purposes. It should not be reduced further.*

<b>VEHICULAR TRAFFIC</b>		
1. _____	New alignment. No traffic at the site.	
2. _____	Traffic will be detoured away from the site.	
3. _____	Traffic will be carried on the structure. Stage construction will/will not be required.	
4. _____	Traffic will pass under the structure on _____ (Name of St. or Hwy.)	
A. _____ No falsework allowed over traffic.		
B. _____ Falsework opening(s) required:		
	Temporary Vertical Clearance	Width of Traffic Opening
_____ Bnd.	_____	_____
_____ Bnd.	_____	_____
_____ Two-way	_____	_____
C. _____ Temporary traffic lane reduction needed for footing excavation.		
<b>PEDESTRIAN TRAFFIC</b>		
Falsework opening(s) required on _____ (Name of St.)		
Location	Height	Width
_____	_____	_____
<b>RAILROAD TRAFFIC</b>		
Falsework opening(s) required over _____ (Name of RR)		
Vertical Clearance	Horizontal Clear Width	
_____	_____	

**Decal No. 32**

General discussions and tables for falsework openings are covered in the *Highway Design Manual*, Index No. 204.6, (4), and Bridge Design Aids 10-6. Example F is an example of a General Plan and the temporary note to be used. Translucent copies of the temporary note are available at the same location as the "decals".

If traffic requirements are not clearly indicated in the Preliminary Report, the Project Designer should contact the District Project Engineer and obtain further information and agree on assumptions.

## I. Index to Plans

There are three acceptable sheets on which to place the Index to Plans.

1. The "General Plan" sheet. Space for Index to Plans, Standard Plans List, and Quantities is usually adequate in the lower right corner.
2. The "Deck Contours" sheet. If space is not adequate on the General Plan, the vacant space in the lower part of the Deck Contour sheet may be used for Index to Plans, Standard Plan List, Quantities, and other notes.
3. The "Index to Plans" sheet. If space is not adequate on the General Plan or the Deck Contours sheet, a special sheet called "Index to Plans" may be inserted as the second sheet. Index to Plans, Standard Plan List, Quantities, and other notes may be placed on this sheet. Use a Design "Detail" Sheet, Form DS OSD 2139. See Example C.

## J. Index Typing Form

The Index to Plans and Standard Plans List, should be typed on adhesive back film (decal material). Use Index to Plans Form, DS-OSD152, which is available at the clerk stations. The information will be typed by the assigned Design Branch typist. See Example D.

## K. Summary of Index to Plans, Notes & Decals

*Index to Plans:* This is a list of details sheets designed and drawn by the Design Section. This is to include the Foundation Plan, Log of Test Borings, and any required insertable Bridge Standard Detail Sheets. This index is followed by a list of selected Standard Plans that are applicable to the job. See Example E.


*Quantities:* A space must be left in the lower right corner for the list of contract pay items and quantities. This decal is applied by the Estimating Section at "Expedite" time.

*Bridge Standard Detail Sheets:* These insertable sheets by Office of Structure Design are available from the Floor Clerk. A list of sheets and reduced prints are in Bridge Design Details, Section 20. Insertable standards may be revised for a specific job.

*Bridge Standard Plans:* Standard Plans are issued by Office Engineer in book form. A list of plans and reduced prints are in the Standard Plans Book. All engineers and detailers have a copy of the current Standard Plans book. Standard Plans are not normally inserted into the project plan set. They are inserted into the contract plans by Office Engineer, unless the plan has been revised (RSP) or if a new Standard Plan sheet (NSP) has been issued. The Design Section responsible for the project will insert any revised or new Standard Plans into the project plan set. Standard Plans may be revised for a specific job. See Bridge Design Details 1-71.

*Decals:* Decals of specific standardized details are available from the Floor Clerk. See Bridge Design Details 1-78 for a listing. Each Design Section has a Decal Reference Book.

## Example C

<div style="border: 1px solid black; padding: 5px;"> <div style="display: flex; justify-content: space-between;"> <div> <div style="display: flex; justify-content: space-between;"> <div> <div>UNIT</div> <div>COUNTY</div> <div>ROUTE</div> </div> <div> <div>POST MILE</div> <div>TOTAL MILE</div> <div>TOTAL SHEETS</div> </div> </div> <div style="text-align: center;">  </div> </div> <div style="margin-top: 10px;"> <div>REGISTERED ENGINEER - CIVIL</div> <div>NAME APPROVAL DATE</div> </div> </div> </div>	<div style="text-align: center;"> <h3>STANDARD PLANS DATED JANUARY 1988</h3> <h4>GENERAL ROAD WORK</h4> </div> <div style="margin-top: 10px;"> <p>A52-C EXCAVATION AND BACKFILL-LIMITS OF PAYMENT (Bridge)</p> <p>BELIDGE</p> <p>B0-1 BRIDGE DETAILS</p> <p>B0-3 BRIDGE DETAILS</p> <p>B0-5 BRIDGE DETAILS</p> <p>B2-5 PILE DETAILS - CLASS 45 &amp; CLASS 70</p> <p>B3-1 RETAINING WALL TYPE 1 R = 4' - 30'</p> <p>B3-8 RETAINING WALL DETAILS NO. 1</p> <p>B3-9 RETAINING WALL DETAILS NO. 2</p> <p>B6-21 JOINT SEALS</p> <p>B7-1 BOX GIRDER DETAILS</p> <p>B7-10 UTILITY OPENING - BOX GIRDER</p> <p>B11-30 TEMPORARY RAILING (TYPE K)</p> <p>B11-53 CONCRETE BARRIER TYPE 25</p> <p>B14-3 SUPPLY LINE AND COMMUNICATION &amp; SPRINKLER CONTROL CONDUITS (FOR PIPE OR CONDUIT LESS THAN 4"Ø)</p> </div>	<div style="text-align: center;"> <h3>INDEX TO PLANS</h3> </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>SHEET NO.</th> <th>TITLE</th> </tr> </thead> <tbody> <tr><td>1.</td><td>GENERAL PLAN</td></tr> <tr><td>2.</td><td>INDEX TO PLANS</td></tr> <tr><td>3.</td><td>DECK CONTOURS</td></tr> <tr><td>4.</td><td>FOUNDATION PLAN NO. 1</td></tr> <tr><td>5.</td><td>FOUNDATION PLAN NO. 2</td></tr> <tr><td>6.</td><td>ABUTMENT 1 LAYOUT</td></tr> <tr><td>7.</td><td>ABUTMENT 10 LAYOUT</td></tr> <tr><td>8.</td><td>ABUTMENT DETAILS</td></tr> <tr><td>9.</td><td>BENT LAYOUT</td></tr> <tr><td>10.</td><td>BENT DETAILS</td></tr> <tr><td>11.</td><td>TYPICAL SECTION</td></tr> <tr><td>12.</td><td>GIRDER LAYOUT</td></tr> <tr><td>13.</td><td>HINGE DETAILS</td></tr> <tr><td>14.</td><td>RESTRAINER UNIT - TYPE 2</td></tr> <tr><td>15.</td><td>CAST-IN-PLACE PRESTRESSED GIRDER DETAILS</td></tr> <tr><td>16.</td><td>LOG OF TEST BORINGS</td></tr> </tbody> </table>	SHEET NO.	TITLE	1.	GENERAL PLAN	2.	INDEX TO PLANS	3.	DECK CONTOURS	4.	FOUNDATION PLAN NO. 1	5.	FOUNDATION PLAN NO. 2	6.	ABUTMENT 1 LAYOUT	7.	ABUTMENT 10 LAYOUT	8.	ABUTMENT DETAILS	9.	BENT LAYOUT	10.	BENT DETAILS	11.	TYPICAL SECTION	12.	GIRDER LAYOUT	13.	HINGE DETAILS	14.	RESTRAINER UNIT - TYPE 2	15.	CAST-IN-PLACE PRESTRESSED GIRDER DETAILS	16.	LOG OF TEST BORINGS	<div style="border: 1px solid black; padding: 5px;"> <p><b>NOTE TO DETAILER:</b></p> <p>Decals of details (Tie Bar Detail, Spiral Tie Hook, etc.) should be placed on detail sheets where the detail applies. If decals of details are placed on this sheet they should be cross-referenced to the sheet where detail is needed and on the sheet where detail applies.</p> </div>
SHEET NO.	TITLE																																				
1.	GENERAL PLAN																																				
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<div style="text-align: center;"> <h3>GENERAL NOTES</h3> <h4>LOAD FACTOR DESIGN</h4> </div> <p>DESIGN: BRIDGE DESIGN SPECIFICATIONS</p> <p>DESIGN: (H&amp;S) ASHTO with Interim and Revisions by CALTRANS</p> <p>DEAD LOAD: Includes 35 psf for future wearing surface.</p> <p>LIVE LOADING: HS20-44 and alternative and permit design load.</p> <p>REINFORCED CONCRETE: <math>f'_c = 4,000</math> psi</p> <p><math>f_y = 60,000</math> psi</p> <p><math>f_y = 3,250</math> psi</p> <p>Transverse deck slabs (working stress design)</p> <p><math>f'_c = 4,000</math> psi</p> <p><math>f_y = 60,000</math> psi</p> <p><math>f_y = 3,250</math> psi</p> <p><math>n = 10</math></p> <p>PRESTRESSED CONCRETE: See "Prestressing Notes"</p> <p>STRUCTURAL STEEL: <math>f_y = 36,000</math> psi</p> <p>FOOTING PRESSURE (TONS PER SF) ALLOWABLE DESIGN</p>	<div style="text-align: center;"> <h3>PRESTRESSING NOTES</h3> </div> <p>270 KSI Low Relaxation Strand:</p> <p>Flack = _____ lbs</p> <p><math>A_s =</math> _____ sq in</p> <p>Anchor Set = _____ in</p> <p>Distribution of prestress force (P/F) between girders and abutments shall be based on initial force variation between girders and not exceed 75%.</p> <p>Concrete: <math>f'_c =</math> _____ psi @ 28 days</p> <p><math>f_y =</math> _____ psi @ time of stressing</p> <p>Compressor shall adjust elongation calculations based on initial stress at X = _____ times jacking stress.</p> <p>One end stressing shall be performed from the long span end only.</p>																																				
<div style="display: flex; justify-content: space-between;"> <div> <div style="display: flex; justify-content: space-between;"> <div> <div>STATE OF CALIFORNIA</div> <div>DEPARTMENT OF TRANSPORTATION</div> </div> <div> <div>PROJECT NO.</div> <div>POST MILE</div> <div>POST MILE</div> </div> </div> <div> <div>SECTION NO.</div> <div>SECTION NO.</div> <div>SECTION NO.</div> </div> <div> <div>SECTION NO.</div> <div>SECTION NO.</div> <div>SECTION NO.</div> </div> </div> <div style="text-align: center;"> <h3>EXAMPLE OVERCROSSING</h3> <h4>INDEX TO PLANS</h4> </div> </div>																																					

## Example D

DEPARTMENT OF TRANSPORTATION  
DS-OSD 152 (REV. 3/88)

TO: Typist \_\_\_\_\_

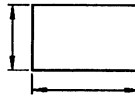
For: Index to Plans Decals

RETURN TO: \_\_\_\_\_

SECTION: \_\_\_\_\_ PHONE: \_\_\_\_\_

BR. NAME: \_\_\_\_\_

SPACE LIMITATION:



INDEX TO PLANS  
TITLE

SHEET NO.

1	_____
2	_____
3	_____
4	_____
5	_____
6	_____
7	_____
8	_____
9	_____
10	_____
11	_____
12	_____
13	_____
14	_____
15	_____
16	_____
17	_____
18	_____
19	_____
20	_____

STANDARD PLANS DATED JANUARY 1988

- ☐ A62-A Excavation and Backfill - Miscellaneous
- ☐ A62-B Excavation and Backfill - Bridge Surcharge and Wall
- ☐ A62-C Excavation and Backfill - Bridge
- ☐ B0-1 Bridge Details
- ☐ B0-3 Bridge Details
- ☐ B0-5 Bridge Details
- ☐ B0-13 Bridge Details
- ☐ B2-3 16" Cast-In-Drilled-Hole Concrete Pile
- ☐ B2-5 Pile Details - Class 45 & Class 70
- ☐ B2-8 Pile Details - Class 45C & Class 70C
- ☐ B2-9 Load Test Anchor Pile Detail
- ☐ B3-1 Retaining Wall Type 1 H = 4' - 30'
- ☐ B3-2 Retaining Wall Type 1 H = 32' - 36'
- ☐ B3-3 Retaining Wall Type 1A
- ☐ B3-4 Retaining Wall Type 2
- ☐ B3-5 Counterfort Retaining Wall Type 3
- ☐ B3-6 Counterfort Retaining Wall Type 4
- ☐ B3-7 Retaining Wall Type 5
- ☐ B3-8 Retaining Wall Details No. 1
- ☐ B3-9 Retaining Wall Details No. 2
- ☐ B3-11 Retaining Wall Type 6 - 6'-6" max.
- ☐ B6-1 T-Beam Details
- ☐ B6-10 Utility Openings - T-Beam
- ☐ B6-21 Joint Seal (Maximum Movement Rating = 2")
- ☐ B7-1 Box Girder Details
- ☐ B7-5 Deck Drains
- ☐ B7-6 Deck Drains - Types D-1 & D-2
- ☐ B7-10 Utility Opening - Box Girder
- ☐ B7-11 Utilities Details
- ☐ B8-5 Cast-In-Place Prestressed Girder Details
- ☐ B11-7 Chain Link Railing
- ☐ B11-30 Temporary Railing (Type K)
- ☐ B11-47 Cable Railing
- ☐ B11-51 Tubular Hand Railing
- ☐ B11-52 Chain Link Railing Type 7
- ☐ B11-53 Concrete Barrier Type 25
- ☐ B11-54 Concrete Barrier Type 26
- ☐ B13-1 Slope Protection Detail No. 1
- ☐ B13-2 Slope Protection Detail No. 2
- ☐ B14-1 Structural Steel Plate Vehicular Undercrossing
- ☐ B14-2 Structural Steel Plate Arches
- ☐ B14-3 Supply Line and Communication & Sprinkler Control  
Conduits (For Pipe or Conduit Less than 4"φ)
- ☐ B14-4 Supply Line (Minimum Pipe Size - 4"φ)

**Example E**

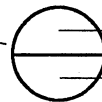
## INDEX TO PLANS

	SHEET NO.	TITLE
<i>Include Special Details Sheet (for a specific project) which supersedes a Standard Plan</i>	1	GENERAL PLAN
	2	DECK CONTOURS
	3	FOUNDATION PLANS
	4	ABUTMENTS
<i>Include insertable Bridge Standard Detail Sheet</i>	5 ②	RETAINING WALL TYPE 1A
	6	SLOPE PAVING DETAILS - FULL SLOPE
<i>Include permanently revised Standard Plan Sheet that supersedes the original Standard Plan (which has been deleted from the Standard Plans Book)</i>	7	BENTS
	8 ③	GIRDER LAYOUT AND TYPICAL SECTION
	9	GIRDER REINFORCEMENT
	10 ⑤	(RSP B2-5) PILE DETAILS CLASS 45 & CLASS 70
	11	LOG OF TEST BORINGS

## STANDARD PLANS DATED JANUARY 1988

④	A62-B	EXCAVATION & BACKFILL-BRIDGE SURCHARGE & WALL
①	A62-C	EXCAVATION & BACKFILL-BRIDGE
①	B0-1	BRIDGE DETAILS
②	B0-3	BRIDGE DETAILS
③	B0-5	BRIDGE DETAILS
	B7-1	BOX GIRDER DETAILS
	B7-10	UTILITY OPENING-BOX GIRDER
	B11-53	CONCRETE BARRIER TYPE 25

Use Decal of this Symbol for identification



Standard Plan Sheet number

Detail number

- ① These are usually needed on all Bridges.
- ② When Standard Retaining Walls are used, B0-3 is needed for joints.
- ③ B0-5 is needed for Deck Reinforcing placing details.
- ④ Only needed when Retaining Wall is not part of Wingwall or where Bridge Embankment surcharge is involved.
- ⑤ Revised Standard Plan sheet number.

### 3-15.4

## PUBLIC UTILITIES COMMISSION SHEETS

EXHIBIT PREPARATION

The P.U.C Exhibit B shall be prepared by the Design Section responsible for the structure design. Information not included in the Preliminary Report but required to complete the exhibit is available from the assigned Agreements Engineer. Railroad easements, right of way, vertical and horizontal clearances, R.R. stationing, R.R. mile posts and R.R. profiles are pertinent information required on the application. Location and vicinity maps are also necessary.

If the project involves a grade crossing, the Design Section will prepare an Exhibit C application.

Normally the exhibits are prepared after the General Plan has been completed by the Office of Structures Design and approved by the railroad. It is the responsibility of the design engineer to ensure that such exhibits are prepared using the latest available design information referred to in the first paragraph.

REVIEW PLANS

The Agreements Section will send a copy of the P.U.C. Sheets to the Section that designed the project just prior to filing the application with the Public Utilities Commission. The designer should check the P.U.C. Sheet for conformance with the latest General Plan and return it to the Agreements Section.

## PERMITS

U. S. CORPS OF ENGINEERS

A permit is required for all construction crossing or impinging on any body of water (river, creek, lake, etc.)

BOARD OF RECLAMATION

Similar to the above but their jurisdiction is limited to a specific area.

U. S. COAST GUARD

This agency's jurisdiction includes all bodies of water subject to tidal flows, including those that may not be navigable.

Under normal conditions, if a structure is involved the Agreements Section processes the applications and obtains the necessary permits mentioned above. Design Section should check if District has made a permit application for the project involved.

PERMIT PREPARATION - - - Information and plans required for permit applications shall be prepared by the Design Section responsible for the structure design. The application shall be completed and submitted to the proper agencies by the assigned Agreements Engineer.

## TITLE SHEETS

It is the responsibility of the Office of Structures to prepare title sheets on "bridge" only contracts. The Project Engineer in the responsible Design Section shall obtain an understanding with the District if there will be any "road" work involved in a project. If there is no "road" work the title sheet shall be prepared by the Design Section.

### "GENERAL PLAN" TITLE SHEET

The General Plan on "one-bridge" projects may be modified by addition of a location and/or vicinity map, the "State Highway Project" heading and the contract number block. See example, Page 3-23.

Decals of the "project" heading and Contract No. block are available from Support Services. The Location Map should have an arrow added to indicate the location, and the "project" heading location must be lettered. Location maps are not required in well known Metropolitan areas such as Glendale, Sacramento, Oakland, etc. A vicinity map must be added by tracing, cutting-in, or tape-on. The scale should be sufficient to identify street or highway access to the project. The city and/or county name must appear on the map. Date approved, Interstate project numbers and the Contract No. will be added by the Office of Office Engineer. See example, Page 3-23.

If space is not adequate to include all the information, the GP title sheet shall include index to plans, location map, and vicinity map.

The structure, plan, elevation, etc., shall be placed on the second sheet. These details will be drawn on detail paper and the sheet will be "STRUCTURE PLAN".

### PROJECT PLAN TITLE SHEET

On projects with more than one bridge or location of work, a title sheet shall be prepared similar to the information noted above. Technical Services Group has Title Sheets, Form No. DS D138A to be used for this purpose. Page 3-24 is an example of a completed Project Plan Title Sheet.

On projects with more than one bridge or locations of work a Project Plan Title Sheet shall be prepared. The information required

## Title Sheets (cont)

is index to plans, locations of work, location map, and vicinity map.

The Structure Plan Elevation, etc. shall be placed on the second sheet, these details will be drawn on general plan paper and the sheet will be "GENERAL PLAN" for each structure.

If the projects are sound walls, earthquake restrainers, etc., do not use general plan paper for "STRUCTURE PLANS". Use detail paper for "STRUCTURE PLANS".

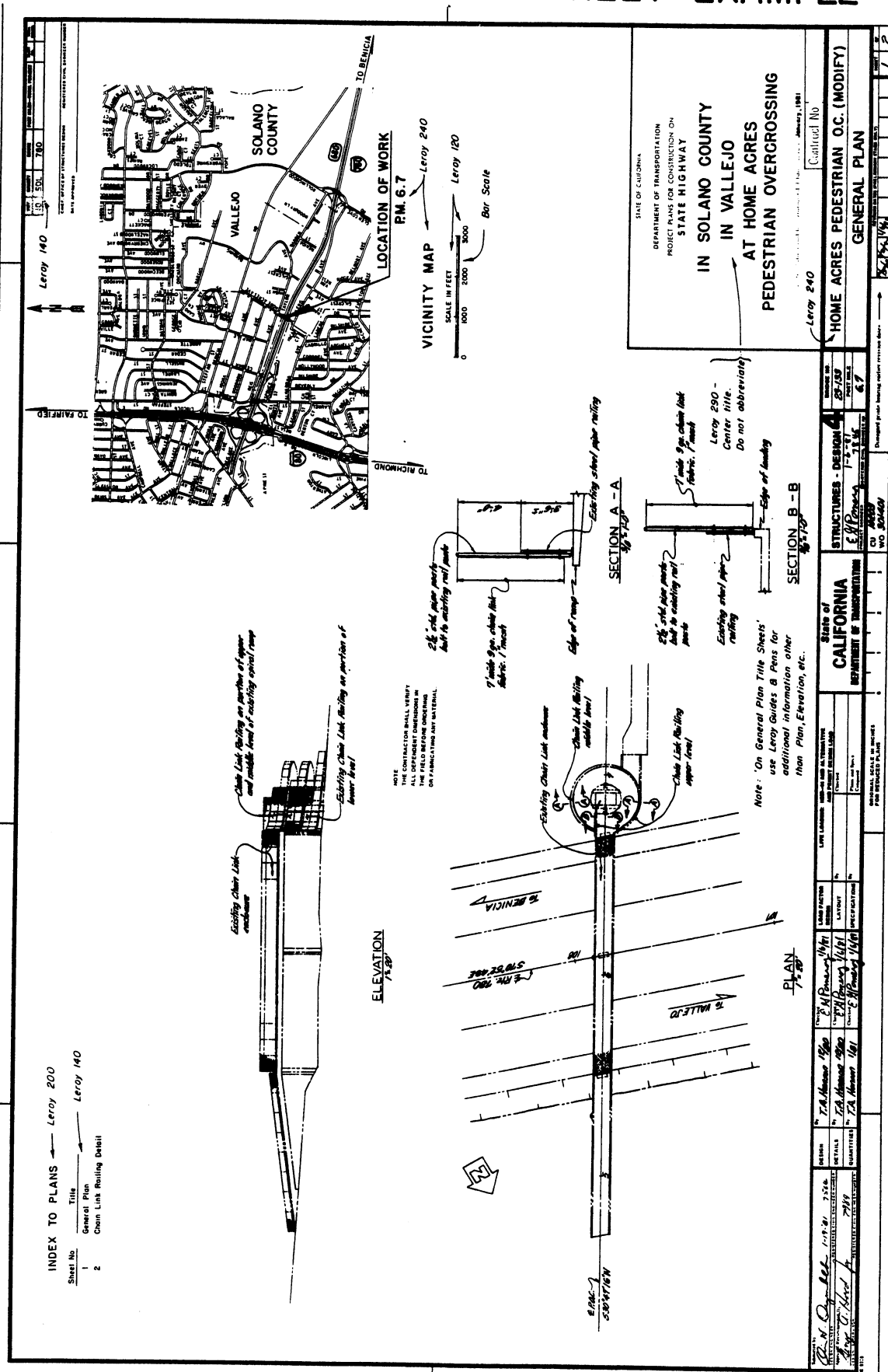
Office of Structures Local Assistance 3rd floor, has a set of road system maps available for review. If a suitable map is located a request can be made for same scale or an alternative scale. Order an auto positive film clear or matte.

Maps used as location maps and vicinity maps may be requested from Office Engineer Drafting Services at 2-5141.

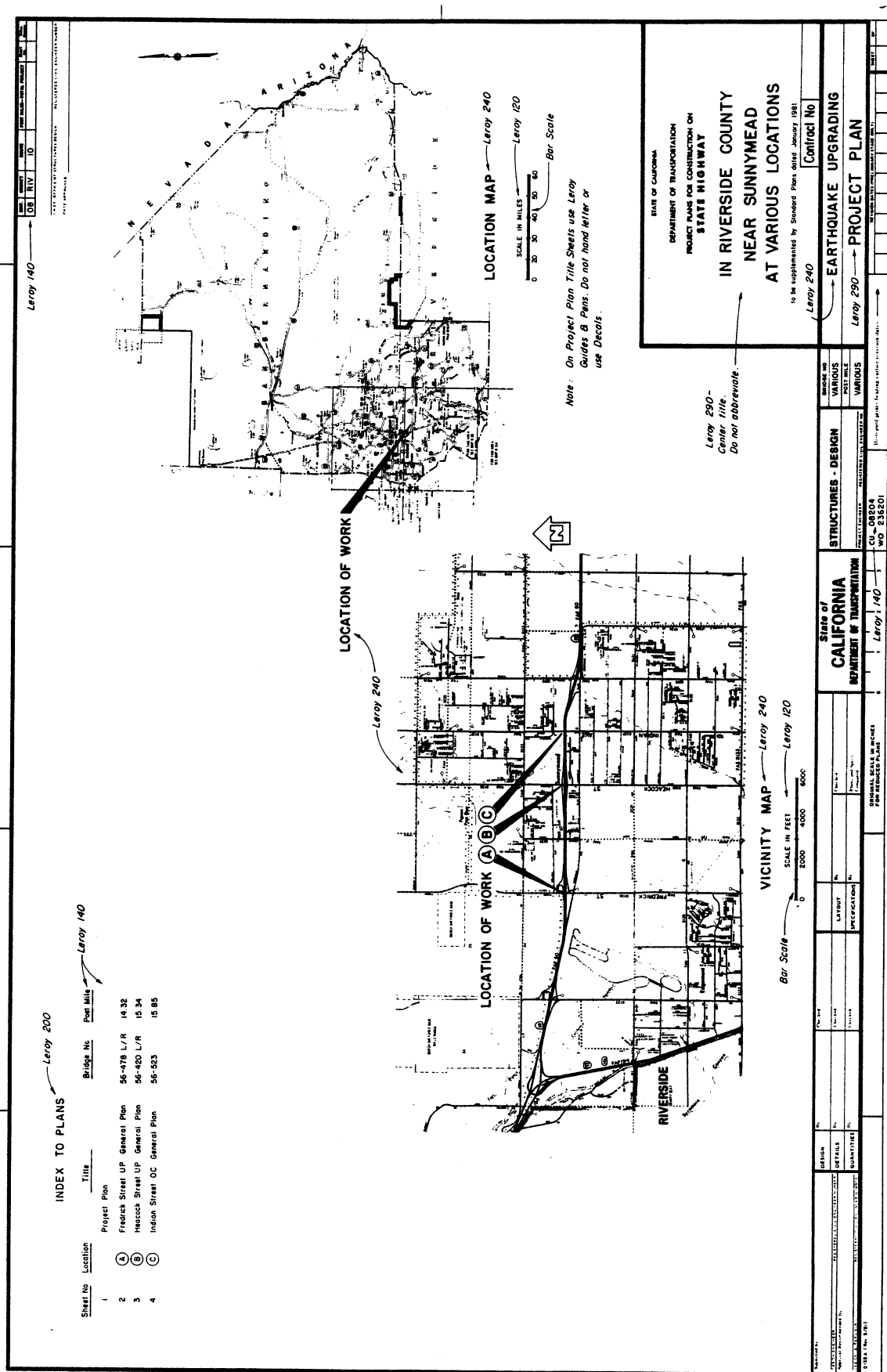
NOTE: Title Sheet form DS D138A (Rev 5/81) may be used for General Plan and Project Plan Title Sheets. This form is available from Technical Services in autopositive film matte.

A minimum of freehand lettering on Structure Details may be used on the General Plan Title Sheet. All other lettering shall be Leroy. All lettering on the Project Plan Title Sheets shall be Leroy.

## 'GENERAL PLAN' TITLE SHEET EXAMPLE



## 'PROJECT PLAN' TITLE SHEET EXAMPLE



## STRUCTURE IDENTIFICATION

### Structure Identification

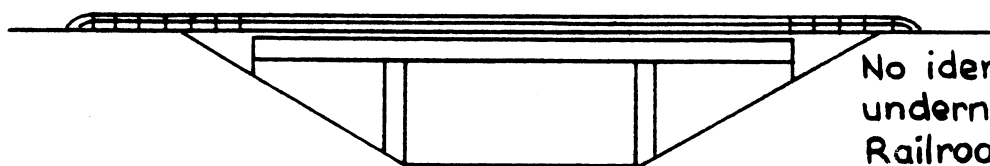
The bridge number and name of the structure shall be painted on all structures. They should be located in a place visible to traffic from the roadway at both the upper and lower level. At the upper level, they shall be painted on the rail near the paving notch to the right of approaching traffic. At the lower level, they shall be painted on a column or wingwall to the right of approaching traffic.

Exceptions: In the case of structures with no columns adjacent to the roadway, they may be painted up on the abutment wingwall; or on a column in the center of the roadway to the left of traffic. No identification is needed on the lower level of bridges over waterways or railroad overheads; or on the upper level of railroad underpasses. Culvert type structures usually have a railroad "paddle" sign with the bridge number painted on it.

On structures more than 600 feet long, or consisting of ten or more spans, it is desirable to identify the bent numbers for Maintenance personnel. These should be the same as used in the plans; i.e., 2R, 15L, or if stationing is used as a bent number, A 35+10, etc.

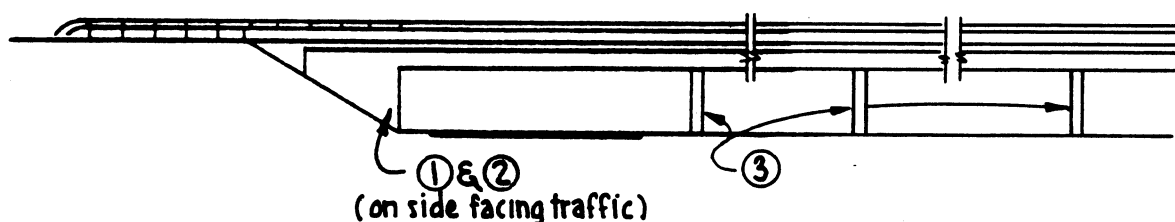
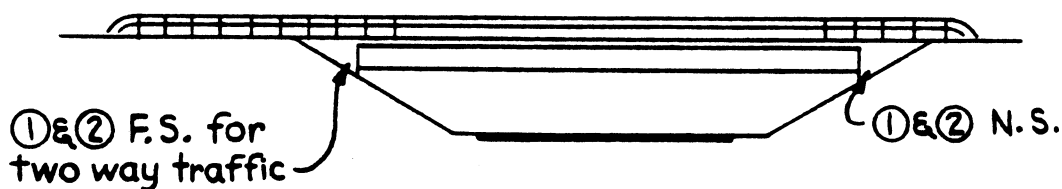
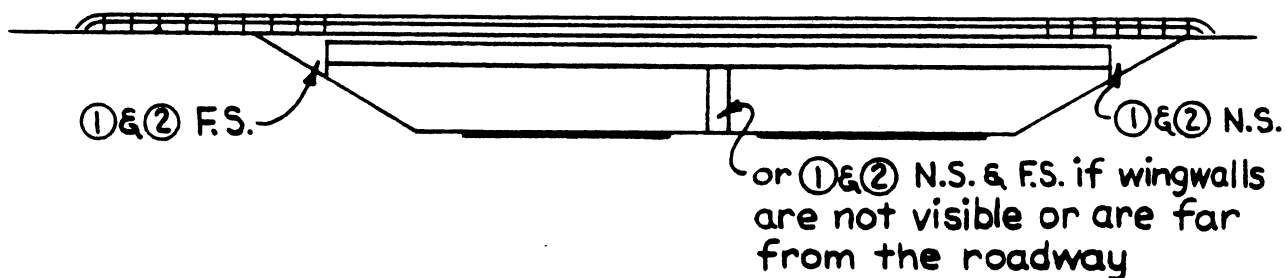
### Show on General Plan

Page 3-31 is a sketch showing where to indicate the painting of the Bridge Number and Name of Structure and Bent Numbers on the General Plan. Omit portions that do not apply.

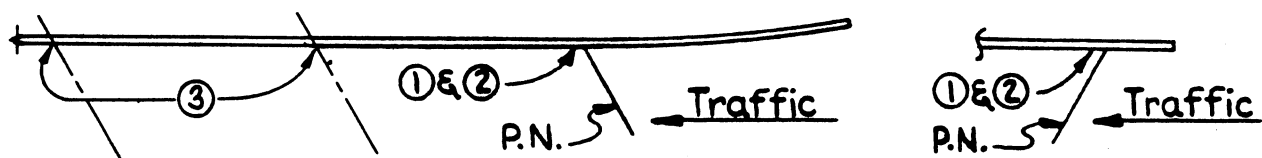


No identification required underneath Bridges or Railroad Overheads. Viaduct structures shall be treated as below.

### Bridges & Overheads LOWER LEVEL



### Viaducts, Overcrossings, Undercrossings, Separations, & Underpasses LOWER LEVEL



### All Structures except Underpasses UPPER LEVEL

- ① = Paint Br. No.
- ② = Paint "Name of Structure".
- ③ = Paint Bent Number (on long structures)

## STATE RECLAMATION BOARD PLAN SUBMITTAL

When called for in the Preliminary Report, an application for approval must be submitted to the State Reclamation Board for waterway crossings which are under their jurisdiction. These applications require the following information:

### 1. General Plan

- a. Corps of Engineers datum or equation to Corps of Engineers datum.
- b. Flood plane elevation.
- c. Estimated pile tip elevations, bottom of footing elevations and location and elevation of the lowest point of bridge over the channel.
- d. Size and location of piles, piers and bents.

When a project has more than one waterway crossing, all the general plans should be submitted together, along with a project strip map.

### 2. Special Provisions

Prior to the submittal of the general plans, a review of the project will be made by the Design and Specification Sections. This review should cover those items of work that are controlled by the requirements set by the Board. From this review, a general outline of those controls we propose to place in the Special Provisions and any deviations from the Board's requirements should be submitted to the Board for their approval.

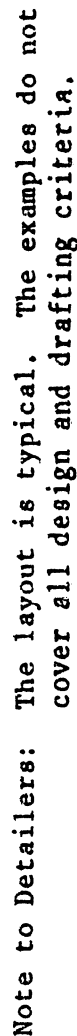
In general, the Board's requirements are as follows:

- a. Temporary falsework, staging or similar construction shall not create a blockage of flow and in some cases may be prohibited from remaining in the floodway during the following flood seasons:
  1. Rain streams - November 1 to April 15  
(Sacramento River and tributaries in general)
  2. Snow streams - November 15 to July 20  
(San Joaquin River and tributaries in general)
- b. Removal of any material from the levee during the above flood seasons will not be permitted.
- c. All weather access to and along a levee system is a prime concern of the Reclamation Board and may be required for patrol and maintenance equipment. This requirement has been satisfied in the past by:
  1. An interchange within 1/2 mile of the levee.
  2. 14' x 14' opening on the land side of the levee. Grade crossings of the highway are discouraged by the Board.

- d. Generally, footings and piles are not allowed to be located within a levee. Sheet piling normally will be required during construction when footings located within the levee are approved by the Board.
3. Project Strip Map (Indicate location of structures concerned)
4. District Site Map (Request from District when submitting General Plan for approval if site map is not in preliminary report)
  - a. Show stream banks before and after construction approximately 1000' each side of Bridge Q. This will vary with each situation.
  - b. Approach fills to levee or bridge.
  - c. Location and limits of proposed reventment work. (If none, so indicate.)
  - d. Access to levees on both sides of bridge.
  - e. Direction of stream flow.
  - f. Contours.
5. Cross-Section of Existing Channel
  - a. Extend cross-section to include any levees or banks of the natural channel.
  - b. Show existing conditions and proposed changes to stream bed, banks, berms or levees.

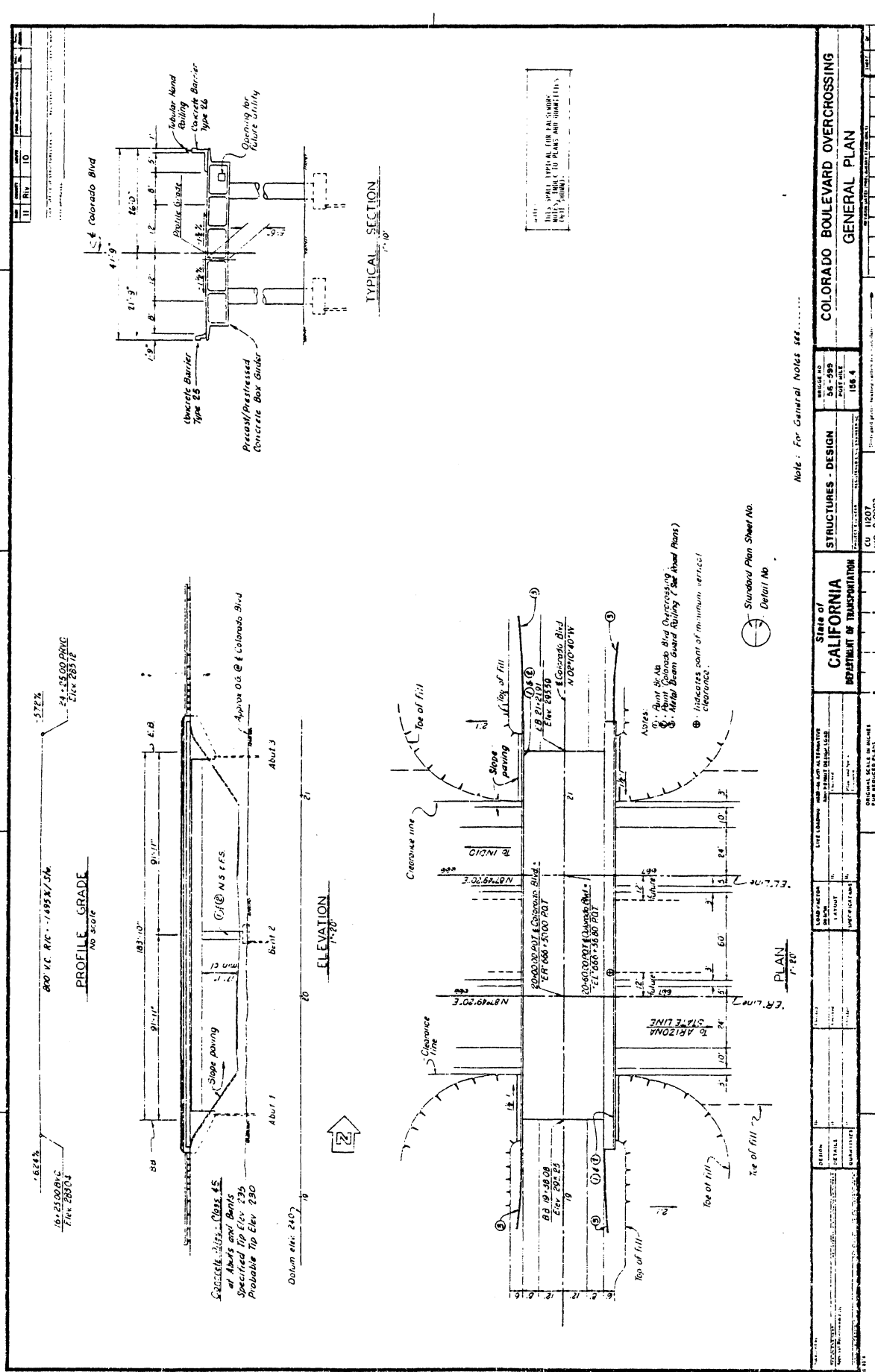
This sheet is particularly important when cross-section goes beyond limits shown on General Plan. This cross-section may be shown on General Plan, Site Map or 8 1/2" x 11" attachment.
6. Log of Test Borings (Only when work is contemplated near or within levee section.)
7. Hydraulic Study and related material. This material will be assembled in a package by the Preliminary Investigation Group and forwarded to the Design Group along with the Preliminary Report.

## DETAILING EXAMPLE

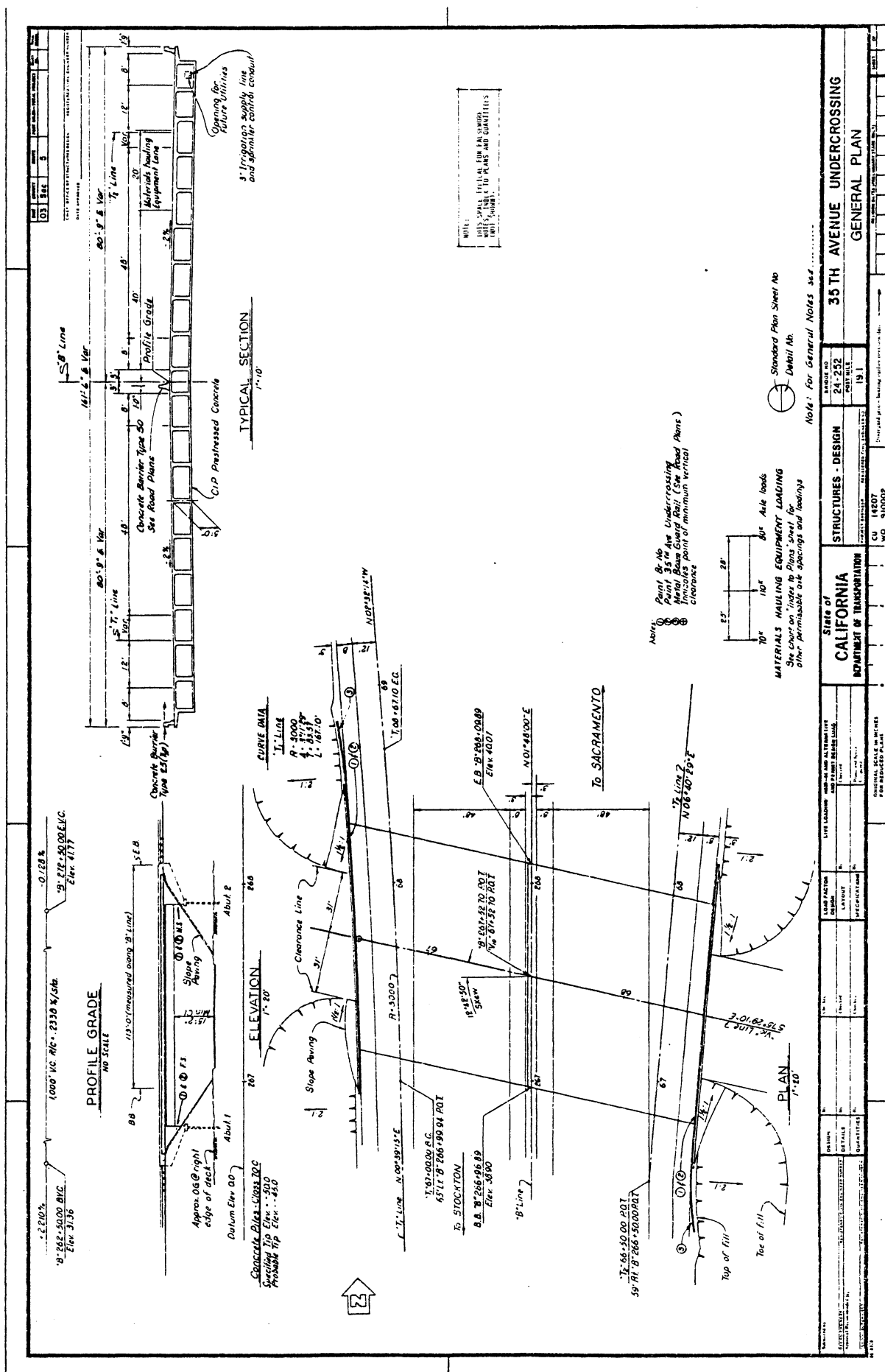


**Note to Detailers:** The layout is typical. The examples do not cover all design and drafting criteria.

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